



HI-Q

THE LAKEHEAD AMATEUR RADIO CLUB JOURNAL

LARC- Suite 184, 1100C Memorial Ave., Thunder Bay, Ontario, Canada, P7B 4A3

VE3FW - LARC call sign - honours the memory of the Founding President - P. J. "Pat" O'Shea

LARC SENATE

Keith Fiske	VE3JQ
Ray Forslund	VE3EDZ
Pat Doherty	VE3PD
Dave Kimpton	VE3AVS
Bill Klemacki	VE3AJ
Bill Roberts	VE3ARN

LARC EXECUTIVE 2003-2004

President:	Bill Unger	VE3XT 344-1848
Vice-Pres:	Mark Vaillant	VA3MVR 935-2205
Secretary:	Bill Klemacki	VE3AJ 344-1866
Treasurer:	Ed Baumann	VE3SNW 622-1216
Directors:	Terry Stewardson	VA3LU 577-9439
	Fred Lesnick	VE3FAL 577-0789
	Brad Harris	VE3MXJ 767-0628
	Leo Wehrstedt	VE3ATC 939-1020
Past Pres:	Bob Hansen	VE3RVA
Editor:	Glen Wallace	VE3ICY

LARC OPEN ACCESS REPEATERS

VE3YQT MOUNT BALDY 147.060 (-600) FP
VE3TBR ST. JOSEPH'S 146.820 (-600) FP
442.075 (+5 MHz)
VE3BGA HILLCREST H.S. 145.450 (-600)

winner@confederations.on.ca

The Prez Sez.....

It's been an interesting month for Ham Radio here in Thunder Bay.

We had a great mini swap meet at VE3AJ's QTH and was good to see a lot of locals turn out for both swapping and conversation.

I am curious to know what you think of the new format at the LARC meetings. We plan to have a guest speaker or two at the start of each meeting and then conduct the business after the talks. And then of course the trip to Boston Pizza where food and beverage and eyeball QSO's are the order of the evening. Do you like the new format or not..... let me know. Also is there anything you want to hear about in ham radio..... or anything you are messing with and would care to share with the rest of us? Please use my email address below or phone number in the side bar to contact me or any member of the executive to express your ideas or concerns.

We also have a new repeater up in Upsala soon and it's available for operation on 145.47 MHz with a minus offset. A special thanks to the repeater committee for their efforts on our behalf.

The week of October 26 there was a huge solar flare from the sun that wiped out all HF communications. I could not even hear WWV from my QTH. For a good description of what happened check out the CBC radio web site of their science program Quirks and Quarks at www.radio.cbc.ca/programs/quirks. Go to the November 1 program and you can hear it in real time audio. Kind of cool! (continued)

A bunch of us also went down to St Paul / Minneapolis for the hamfest at the end of October. It was moved to a different (smaller) venue this year and attendance seemed to be lower than in previous years. There were a few bargains to be had on various toys and in spite of his advise to others Laurie, VE3BCD picked up a really cute Alinco 440 HT.

As always the Minnesotans were friendly and was nice to see a few members of their QRP club as well. I should also make mention of one particular fellow who took some time to stop me personally and tell me I should stay longer in Minnesota (or at least drive slower) and have a nice day.

This month at the meeting I hope to have 2 speakers there, John VA3JMS will give a talk on Can Warn and Vlad VE3KRV will talk on his experiments with small transmitting loop antennas. Both should be interesting talks.

Hope to see you there. If you've not paid your membership dues November would be a good time to do so.

73

Bill VE3XT

wunger@confederationc.on.ca

**Minutes of a meeting
of the Lakehead Amateur Radio Club**

October 09, 2003

Held in Room 191, Confederation College. 7:30 PM

The meeting called to order by the President, **Bill Unger, VE3XT**

Thirty-three members in attendance.

With the new order of things, the first item on the agenda was a presentation by **Fred Erickson, VA3RCR** who discussed the various aspects of the modern scanner, their advantages and disadvantages. Fred also mentioned some of the prohibitions and the Industry Canada licensing that is sometimes required. A hobby unto itself.

BUSINESS

The Treasurer's Report for the previous month was reported verbally by the Secretary, **VE3AJ** as the treasurer was unavailable.

\$914.50 IN ... \$44.82 OUT, leaving a bank balance of \$ 3,538.45.

Moved to accept on a motion by **Bob Gillespie, VE3BHN**, seconded by **Fred Lesnick, VE3FAL**

CARRIED

The minutes of the September 11 meeting as published were amended and moved for acceptance by **Glen Wallace, VE3ICY**, seconded by **Randy Gottfred, VA3OJ**.

CARRIED

Mark, VA3MVR led a discussion on the trailer, such as where and when to use it, what our insurance covered, and where to store it, the OPP being a distinct possibility at this time.

A donation of \$150 was received from the Thunder Wolves and would be acknowledged by the Secretary.

COMMITTEES

ARES: **Randy, VA3GOT** would like new forms filled out to allow him to get his files up to date.

EQUIPMENT: **Andy Malcolm, VE3INI** gave an update for the Upsala repeater. The tower, antenna and Heliac are installed and the equipment is almost ready to be delivered to the site.

CANWARN: **Norm Bell, VE3XRC** gave an update for the Fire Department installation. The antennas have been removed from the Environment Canada location and would soon be installed at the North Central Fire Hall. A new base would have to be configured for the HF vertical.

NEW BUSINESS:

President Unger, VE3XT, reported that Industry Canada was conducting a survey on towers, but the responses had to be in by Friday, October 10, the day following the meeting, and was being conducted on the internet. Generally the feeling was that municipalities should keep their hands off towers. This survey was to be included in a National Tower Policy Review.

SANTA PARADE:

A list was posted on the black board for volunteers for the Santa Parade. **Clarence, VE3WCW** volunteered to be in the parade with his multi-ribboned trike. Adjournment on a motion by **Judy Artist, VA3EAP**.

LARC

Financial Report – October 200

Bank Accounts (Opening)	2828.44	Expenses (Direct)	44.82
Royal Bank (Opening)	2828.44	Bank Service Fee	0.50
Cash-in-hand (Opening)	976.00	Thunder Bay Telephone	44.32
Cash (Opening)	976.00	Bank Accounts (Closing)	4587.62
Income (Direct)	828.00	Royal Bank (Closing)	4587.62
50/50 Draw	13.00		
Membership Dues	815.00		

Note: The opening Bank balance has been amended from the September 2003 report due to some late deposits (shown as cash) and an outstanding cheque (West Crystals) has not been cashed yet. VE3SNW

Going Vertical **Ed Baumann VE3SNW**

For many years a Lightning brand 5 band quad antenna graced my roof line. It was an excellent antenna, but if you want to go that route, some advice. Make sure you use heavy duty rotors and thrust bearings, the amount of “twist” due to the sail area of the antenna is very large. After many years, the top plate of the tower failed and damaged the ham 4 rotor, and the thrust bearing is “toast”.

With a little help (thanks Randy) the quad was taken down and dismantled, but this left me antenna less. I soon realized that the fiberglass spreaders were still in good shape, and by using the smaller diameter rods as sleeves inside the larger rods, I could make a fiberglass pole almost thirty feet high. I have an iron pipe driven into the ground in the backyard, a relic from an earlier experiment, and the whole pole slid over it and supports it with no problems.

But what to use for the antenna? I found a roll of five conductor rotor cable in the junk collection and cut it for a quarter wave on 20 meters, cut the other four wires as quarter waves for 17, 15, 12, and 10 meters and tied the other (bottom) end all together. With the balance of the cable I made a couple of quarter wave radials. I made a wire “hook” to hold the top of the antenna to the top of the pole and let the balance of it spiral down around the fiberglass pole to reduce wind flap. I found a block of plastic and mounted a SO-239 to it and connected the bottom of the cable to the centre and the radials to outer portion. Voila! A cheap five band vertical. I could have pruned it for a good match on all five bands....but with the tuner I found it unnecessary. Here's a photo of the base showing the connector, the radials and the coax. Note the coax coiled to act as a choke. One of my first contacts with this antenna was a fellow in the mid west states who had just bought a popular brand vertical. I almost didn't have the heart to tell him my vertical didn't cost me a cent.



**Meeting Thursday
Nov.13,2003
Room 191,Confederation
College
7:30 P.M.**

Utility Listening Fred Lesnick VE3FAL

OR NON-HAM COMMUNICATIONS

THE FREQUENCIES BETWEEN OUR DESIGNATED AMATEUR RADIO BANDS ARE FULL OF UNIQUE AND VERY INTERESTING COMMUNICATIONS. THE COMMUNICATIONS TO MANY OF US ARE KNOWN AS UTILITY STATIONS. THESE UTILITY STATIONS ARE VARIOUS GOVERNMENT AND PRIVATE COMMERCIAL USERS. YOU WILL HEAR COASTGUARD, MILITARY, POLICE, INTERPOL, NUMBERS STATIONS, TIME SIGNAL STATIONS, AIRLINERS, MARS AND CAP (AMATEURS) TRANSMISSIONS IN VARIOUS MODES AND MANY FREQUENCIES.

MANY OF THESE TRANSMISSIONS ARE IN THE CLEAR COMMS (NOT SCRAMBLED), OTHERS WILL BE SCRAMBLED, SOME WILL EVEN BE DIGITAL COMMUNICATIONS THAT CAN BE DECIPHERED FROM YOUR HOME COMPUTER (NEXT MONTH'S ARTICLE). SOME TRANSMISSIONS, ARE 24 HOURS A DAY, OTHERS ARE SCHEDULED. THERE IS NO END TO WHAT AND WHERE YOU MAY HEAR SOME OF THESE BROADCASTS.

TWO OF THE BEST SECTIONS OF BANDS FOR SCANNING UTILITY STATIONS IN MY VIEW ARE THE 8 AND 12 MEG FREQUENCIES. THESE FREQUENCIES ALLOW FOR SOME VERY GOOD DAYTIME AND NIGHTTIME MONITORING OF WORLDWIDE STATIONS. HERE YOU WILL FIND IN THE CLEAR BROADCASTS FROM COAST GUARD, SHIP, COAST STATIONS, AIR TRAFFIC, AND MILITARY. THE MID TO UPPER END OF 8 MEGS OFFERS MUCH AIR TRAFFIC FROM AROUND THE WORLD CHECKING IN WITH VARIOUS INTERNATIONAL AIRPORTS AND GIVING POSITIONS AND ETA'S. THE 12 MEG END OF THE SPECTRUM FROM ABOUT 12.5 MEGS AND UP TO 13.5 MEGS OFFERS YOU VARIOUS ARMY AND AIRFORCE STATIONS, MANY SHIP AND COASTAL FREQUENCIES, AS WELL AS SPY NUMBER STATIONS. THESE BROADCASTS CAN BE HEARD DAY AND NIGHT.

For starters some of the easiest utility listening can be done tuning for time signal stations. NIST radio station WWV broadcasts time and frequency information 24 hours per day, 7 days per week to millions of listeners worldwide. WWV is located in Fort Collins, Colorado, about 100 kilometers north of Denver. The broadcast information includes time announcements, standard time intervals, standard frequencies, UT1 time corrections, a BCD time code, geophysical alerts, marine storm warnings, and Global Positioning System (GPS) status reports. WWV operates in the high frequency (HF) portion of the radio spectrum. The station radiates 10,000 W on 5, 10, and 15 MHz; and 2500 W on 2.5 and 20 MHz. Each frequency is broadcast from a separate transmitter. CHU IS A RADIO STATION IN CANADA THAT BROADCASTS TIME OF DAY INFORMATION SORT OF LIKE WWV. CHU TRANSMITS ON 3330 KHz, 7335 KHz, AND 14670 KHz USING AM COMPATIBLE SINGLE-SIDEBAND FULL CARRIER MODULATION.

IF YOU HAVE A GENERAL COVERAGE HF RIG OR A HIGHER END SHORT-WAVE RECEIVER WITH A BFO ON IT, YOU WILL BE ABLE TO HEAR MANY MORE INTERESTING CONVERSATIONS. THE REASON I SAY THIS IS BECAUSE MANY OF THE UTILITY STATIONS BROADCAST IN USB OR CW MODES. MOST OF THE MILITARY COMMUNICATIONS ARE SIDEBAND, SO GET USED TO TUNING THE STATIONS IN. OTHER MODES THAT GIVE YOU MANY HOURS OF LISTENING ARE ALE, RTTY,

AND WEFAX (WEATHER FAX CHARTS). THERE ARE MANY FREEWARE PROGRAMS THAT CAN BE USED WITH YOUR COMPUTER A SIMPLE INTERFACE TO INTERCEPT THESE MODES.

HERE ARE FEW LINKS TO WEBSITES DEDICATED TO UTILITY LISTENING:

[HTTP://WWW.WUNCLUB.COM/](http://www.wunclub.com/)

[HTTP://WWW.KLINGENFUSS.ORG/](http://www.klingenfuss.org/)

[HTTP://WWW.WUNCLUB.COM/](http://www.wunclub.com/)

[HTTP://WWW.DXWORLD.COM/UTENEWS.HTML](http://www.dxworld.com/uteneews.html)

THIS SHOULD GIVE YOU SOME INFORMATION TO GET YOU STARTED IN THE GREAT HOBBY OF UTILITY LISTENING. THE WUN CLUB IS ONE OF THE LARGEST UTILITY CLUBS IN NORTH AMERICA WITH MANY KNOWLEDGEABLE LISTENERS.

HERE IS A BRIEF LISTING OF WHAT ONE CAN HEAR ON THE UTILITY SCENE.

Aeronautical Mobile HF Bands -----All in Upper Sideband (USB)

2850-3155 kHz

3400-3500 kHz

4650-4750 kHz

5480-5730 kHz

6525-6765 kHz

8815-9040 kHz

10005-10100 kHz

11175-11400 kHz

13200-13360 kHz

15010-15100 kHz

17900-18030 kHz

21870-22000 kHz

23200-23350 kHz

8.825 North Atlantic

8.843 Central East Pacific

8.846 West Caribbean

8.855 South America, South Atlantic

8.864 North Atlantic

8.891 North Atlantic, Arctic

8.918 Caribbean, Middle East

*U.S. Air Force

High Frequency Global Communications System (HF-GCS)

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The U.S. Air Force High Frequency (HF) Global Communications System (HF-GCS) is a worldwide network that currently consist of 15 high-power HF stations which provide air/ground HF command and control radio communications between all Department of

Defense (DoD) ground agencies, aircraft and ships. Allied military and other aircraft are also provided support in accordance with agreements and international protocols as appropriate. The HF-GCS is not dedicated to any service or command, but supports all authorized users on a traffic precedence basis. On Jun 1, 1992, the former Global HF System (GHFS) was created by consolidating other U.S. Air Force (USAF) and U.S. Navy (USN) HF networks, including the USAF Global Command and Control System (GCCS), the Navy's Ship-to-Shore High Command (HICOM) network, and the dedicated Strategic Air Command (SAC) Giant Talk System. The goal of the merger was to develop one worldwide non-dedicated HF network capable of providing Command and Control (C2) HF communications support to all authorized DoD aircraft and ground stations. As of 1 October 2002, the former GHFS network is now known as the HF Global Communications System (HF-GCS). The old high power HF equipment being utilized within the HF-GCS has now been replaced with "Scope Command" equipment. Scope Command incorporates Automatic Link Establishment (ALE) technology for use over HF. Scope Command is not the name for this network as some have indicated in the past post to the WUN and other newsgroups. It is the name of the equipment upgrade being done to the network. In January 2003, all HF-GCS station transmit and receive equipment is remotely controlled from the Centralized Net Control Station (CNCS) at Andrews AFB, Maryland. This ALE technology automates many of the functions performed by the operator such as selecting the best propagating frequency from a list of authorized frequencies. Net Procedures General Calling - Aircrews use a preliminary call as outlined in ACP-121 US Supp 2 using the collective callsign "MAINSAIL" or the HF-GCS station call sign (example: Sigonella Global this is Dark 86 on 11175, OVER). HF-GCS operators require approximately 10 seconds (for automated equipment configuration) to respond to calls for service. The HF-GCS operator may request the aircraft change to a discrete frequency for improved and/or extended service. Phone Patch Service - Phone patching allows direct voice communications between ground agencies and aircraft by electronically connecting telephone circuits to radio transmitters and receivers. Phone patch service is reserved for official unclassified business only and shouldn't exceed five minutes. Patches of more than five minutes or of a sensitive nature should be run on a discrete frequency. Aircrews requesting a phone patch must include all information necessary for HF-GCS operators to complete the call, such as the identity or location of the called parties and telephone number if known. Phone patches are monitored by HF-GCS operators and if radio reception isn't of sufficient quality to complete the patch, they will attempt to copy the traffic and relay it to addressees. Message Relay Service - HF-GCS operators transcribe encoded or plain-text messages for aircraft or ground stations and forward them to the addresses by radio or landline. The text of the messages can be in the form of alphanumerics, code words, plain text, acronyms, and/or numerical sequences. Aircrews may use "READ BACK" procedures when the message data is critical, or when an incomplete transmission is suspected due to poor radio reception. All messages received by Global stations will be accepted and delivered by the fastest means available according to precedence and priority. Published Frequency Listing - HF-GCS stations operate on "core" frequencies to provide increased "Global" coverage. The published frequency listing does not reflect complete system frequency authorizations. These published frequencies will be used for initial contact, EAM broadcasts, and short

term C2 phone patch and message delivery. Other extended or special services will be moved to each station's available "discrete" frequencies. Any and all known discrete frequencies for these stations have been incorporated below in the HF-GCS station listings. Frequency Guide - The frequency guide below is used by units contacting this net and is designed to optimize their air/ground communications. Primary HF-GCS Frequencies - 24 hours 8992.0 11175.0 Back up HF-GCS Frequencies - DAY 13200.0 15016.0 Back up HF-GCS Frequencies - NIGHT 4724.0 6739.0 Commonly heard callsigns BRICKWALL Osan Air Mobility Control Center (AMCC) DENALI Elmendorf Air Mobility Control Center (AMCC) HILDA GLOBAL Tanker Airlift Control Center Scott AFB TRACKER US Air Force Europe Tanker Recce Airlift Control Center (UTRACC) MAINSAIL Authorized users may contact and request service from Global HF System stations by using the general net air-ground call sign "MAINSAIL". Any Global station hearing the call "MAINSAIL" will respond and provide the requested service.

(Courtesy WUN Club)

HF RADIOTELEPHONE (SINGLE SIDEBAND) - Contact and Long Range Liaison

ITU CHANNEL	KHz SHIP STATION	KHz COAST STATION	Station and Schedule (UTC)		
			NMN	NMN/NMF	NMG
424	4134	4426	2300-1100	2230-1030	24 HRS
601	6200	6501	24 HRS	24 HRS	24 HRS
816	8240	8764	24 HRS	24 HRS	24 HRS
1205	12242	13089	1100-2300	1030-2230	24 HRS
1625	16432	17314	(-- on request only --)		

ITU CHANNEL	KHz SHIP STATION	KHz COAST STATION	Station and Schedule (UTC)		
			NMC	NMO	NOJ
-	4125	4125	-	-	24 HRS
424	4134	4426	24 HRS	0600-1800	on request
601	6200	6501	24 HRS	24 HRS	24 HRS
816	8240	8764	24 HRS	24 HRS	on request
1205	12242	13089	24 HRS	1800-0600	on request
1625	16432	17314	(-- on request only --)		

NMN Chesapeake VA., NMF Boston MASS., NMG New Orleans LA., NMC Pt. Reyes FL., NMO Honolulu HI., NOJ Kodiak AK.

This should get you started in Utility listening. The bands offer hours of listening, and it is just a matter of knowing when and where to listen.

Happy Hunting and Good DX

Fred Lesnick VE3FAL

From Fred Lesnick VE3FAL on Field Day

Here are the results for this years field day event. Dave and myself ranked 6th out of eleven in our class which was 2 operator QRP using 100% battery power. However that puts us first place for VE in our category. Results are up slightly from previous years. Thanks to iron fist Dave for tagging along with me the last few years. "You can do so much with so little" QRP does work.

Fred

VE3FAL

Class A stations are clubs or nonclub groups operating with more than two operators. Score listings are grouped according to the number of transmitters in simultaneous operation. The listings show club or group name, call sign(s) used, total number of QSOs, number indicating power output used (5 is less than 5 W, 2 is less than 150 W; 1 is more than 150 W), number of participants and total score including bonus points and ARRL section. Scores are listed from highest to lowest in each class. Class B stations are portables manned by one or two operators. When there are two operators, the other operator's call is listed in parentheses, if it is known. Class C stations are mobiles. Class D stations are home stations using commercial power. Class E stations are home stations using emergency power. Class F stations are EOC stations.

2B-2 Op Battery

K7RE (+N9NE) 587 5 2 6,325 WY

WUØH (+NØSXX) 407 5 2 3,920 SD

N8EFO 328 5 2 3,255 OH

W6UR 210 5 2 2,300 SJV

N2MN 209 5 2 2,135 NNJ

VE3FAL (+VE3AVS) 162 5 2 1,820 ON

N6MBY (+K6RHB) 193 5 2 1,765 SB

K5DI 135 5 2 1,285 NM

AA7IH (+WA7AXO) 96 5 2 1,060 OR

WT7X (+N7BCP) 99 5 2 775 WW

W6MPB 75 5 2 675 LAX



VE3JO Senator Keith Fiske, 91 years old and still active on HF.

Editor Says:

Thank you for the contributions this month, I have a great article for next month on the experiences of John Hastie in the Merchant Marine as a Radio Operator. Remember to attend the meeting November 13 Thursday, at Confederation College Room 191.

Glen Wallace VE3ICY